

# Work Order ID 86816

July-06-12 2:58:37 PM

**\*86816\***

Page 1

Item ID: D3391-025 Accept **\*N9000040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Aft Tube Assembly  
 Start Date: 7/06/12 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 8/17/12 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan:                      Date: 12079 Tooling:                      Date:                      Run Start **\*NR1\***  
                     Date:                      SPC (Y/N):                      Date:                      Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

| Draw Nbr | Revision Nbr |
|----------|--------------|
| D3391    | 1            |

100 0.00  
**\*100\*** MORI SEIKI CNC LATHE LARGE  
 Mori Seiki Memo 0.00  
 Mori Seiki CNC Lathe Large Turn as per Form FA599 Rev AA & Dwg D3391 Rev: 1  
 \*\*\*scribe batch # on fwd end at 90 degree\*\*\*

1 φ KE 12-8-23

110 0.00  
**\*110\*** QC2- Inspect parts off machine FAI/FAIB  
 QC Memo 0.00  
 Quality Control

1 φ KE 12-8-23

111 0.00  
**\*111\*** QC8- Inspect parts - second check  
 QC Memo 0.00  
 Quality Control \*\*\*INSPECT INSIDE BORE\*\*\*

1 φ 12/09/13

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Work Order ID 86816

**\*86816\***

Page 2

July-06-12 2:58:37 PM

Item ID: D3391-025 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Aft Tube Assembly  
 Start Date: 7/06/12 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 8/17/12 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description   | Set Up/<br>Run Hours | Tool ID | Tool #   | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--|----------------------|---------|----------|--------------|---------------|---------------|------------------|----------------|
| 120                            |  | 0.00                 |         |          |              |               |               |                  |                |
| <b>*120*</b>                   | HAAS CNC VERTICAL MACHINING #1   |                      | B.a     | 12/09/13 |              | 1             | 0             |                  |                |
| HAAS 1                         | Memo   | 0.00                 |         |          |              |               |               |                  |                |
| HAAS CNC vertical machine #1   | 1-Machine as per Folio FA 599 Rev: <u>AA</u> & Dwg D3391 Rev: <u>I</u><br>2-Deburr |                      |         |          |              |               |               |                  |                |
| 130                            |  | 0.00                 |         |          |              |               |               |                  |                |
| <b>*130*</b>                   | QC2- Inspect parts off machine FAI/FAIB  |                      | B.a     | 12/09/13 |              | 1             | 0             |                  |                |
| QC                             | Memo   | 0.00                 |         |          |              |               |               |                  |                |
| Quality Control                |  |                      |         |          |              |               |               |                  |                |
| 140                            |  | 0.00                 |         |          |              |               |               |                  |                |
| <b>*140*</b>                   | QC8- Inspect parts - second check  |                      | 24      | 12-9-14  |              | 1             | 0             |                  |                |
| QC                             | Memo   | 0.00                 |         |          |              |               |               |                  |                |
| Quality Control                | ***INSPECT INSIDE BORE***  |                      |         |          |              |               |               |                  |                |

★ SEE ATTACHED

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |  |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|--|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |  |
|      |      |                    |    |      |     |                                     |                          |  |
|      |      |                    |    |      |     |                                     |                          |  |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: Auto Date: 12/10/15QA Closed: Auto Date: 12/10/15

|                           |  |  |   |  |                                      |
|---------------------------|--|--|---|--|--------------------------------------|
| Work Order: <u>86816</u>  | <b>DISPOSITION</b><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input checked="" type="checkbox"/><br>Work Order Update <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b>      |   |  |                                      |
| Part No. <u>D3391-025</u> |  | Skid-tube <input type="checkbox"/>     | Crosstube <input checked="" type="checkbox"/> | Water Jet <input type="checkbox"/>           | Engineering <input type="checkbox"/> |
| NCR No. <u>12-1898</u>    |  | Machining <input type="checkbox"/>     | Small Fab <input type="checkbox"/>            | Prod. Eng. Coord. <input type="checkbox"/>   | Quality <input type="checkbox"/>     |
|                           |  | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/>            | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/>       |
|                           |  | Large Fab <input type="checkbox"/>     | Composite <input type="checkbox"/>            | Supplier <input type="checkbox"/>            |                                      |

| Root Cause    | Date    | Step | Qty | Description of work order update or Non-conformance  | Initial Chief Eng    | Action Description   | Sign & Date | Verification | QC Inspector |
|---------------|---------|------|-----|--|----------------------|--|-------------|--------------|--------------|
| Doc/Data      | 12/9/15 | 100  | 1   | Plug was not installed in tube at fwd end and was deated/crushed. Machined slot removed most of the dent, one corner of fwd end is bent inward $\pm 0.06$ , over 1"-2" length. | SA-12<br><br>12/9/15 | Fit in D2500 tube is OK. Slight gap in corner has no effect on strength or function of tube.<br>Acceptable | <br>12/9/15 | <br>12/10/15 | <br>12/10/15 |
| Equip/Tooling |         |      |     |  |                      |  |             |              |              |
| Operator      |         |      |     |  |                      |  |             |              |              |
| Material      |         |      |     |  |                      |  |             |              |              |
| Setup         |         |      |     |  |                      |  |             |              |              |
| Other         |         |      |     |  |                      |  |             |              |              |
| Process       |         |      |     |  |                      |  |             |              |              |
| Supplier      |         |      |     |  |                      |  |             |              |              |
| Training      |         |      |     |  |                      |  |             |              |              |
| Unapproved    |         |      |     |  |                      |  |             |              |              |

## FAULT CATEGORY

|   |   |   |  |   |
|---|---|---|--|---|
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric to O/S<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crushed/Crimped<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Ripples in Bend<br><input type="checkbox"/> Torque Waves in Extrusion<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damaged<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Folio | <input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input checked="" type="checkbox"/> Inspection Incomplete<br><input checked="" type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Maintenance<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Offset<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Outside Dimensions | <input type="checkbox"/> Ovalized<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock-Pulled<br><input type="checkbox"/> Other |
|---|---|---|--|---|



# Work Order ID 86816

**\*86816\***

Page 3

July-06-12 2:58:37 PM

Item ID: D3391-025 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Aft Tube Assembly  
 Start Date: 7/06/12 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 8/17/12 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                                       | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 150                            |  | 0.00                 |         |        |              |               |               |                  |                |
| <b>*150*</b>                   | Skidtubes  |                      |         |        |              |               |               |                  |                |
| Skidtubes                      | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| Skidtubes                      | 1-Drill ( PILOT HOLE) aft cap holes per Dwg D3391 using DT8803 |                      |         |        |              |               |               |                  |                |
| 160                            |  | 0.00                 |         |        |              |               |               |                  |                |
| <b>*160*</b>                   | BENDING MACHINE - SKIDTUBES                                    |                      |         |        |              |               |               |                  |                |
| CNC Bend 1                     | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| CNC Delta 100 Bender           | Form as per Dwg D3391 Using Bend Prog 3391025                  |                      |         |        |              |               |               |                  |                |
| 170                            |  | 0.00                 |         |        |              |               |               |                  |                |
| <b>*170*</b>                   | QC5- Inspect part completeness to step on W/O                  |                      |         |        |              |               |               |                  |                |
| QC                             | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |  |                      |         |        |              |               |               |                  |                |

★ PTO see back of 2nd following page

① SMO 12-03-17

DP 12-9-17

1 0 12-09-19



| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



**Work Order ID 86816**

July-06-12 2:58:37 PM

**\*86816\***

Page 4

Item ID: D3391-025

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Aft Tube Assembly

Start Date: 7/06/12 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 8/17/12 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

180

**\*180\***

Skidtubes

Skidtubes

Skidtubes

Memo

0.00

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill float bag holes using DT8809 as per Dwg D3391(Holes marked "A" Only.

3-Drill wearplate holes as per Dwg D3391 using DT8878(Mid Tube) & DT8217  
Wearplate Jig .

\*\*\*\*\*Do Not Open To Finished Size\*\*\*\*\*

4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2  
previously drilled aft wearplate holes.

5-Open wearplate holes to 0.250" and c'bore as per dwg D3391

6-Open up all wearshoe , wearplate to 0.297"and float bag holes to 0.328" as per  
Dwg D3391.

7-Deburr

Dx 12/09/19

| W/O: 86816 |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE       | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|            |      |                    |    |      |     |                                     |                          |
|            |      |                    |    |      |     |                                     |                          |

Part No: D3391-025 PAR #: \_\_\_\_\_ Fault Category: Landing gear <sup>skid tube</sup> NCR: (Yes) No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: Acceptable QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR:    |      | WORK ORDER NON-CONFORMANCE (NCR)  |                             |  |                      |                           |                       |                          |
|---------|------|---|-----------------------------|--|----------------------|---------------------------|-----------------------|--------------------------|
| DATE    | STEP | Description of NC<br>Section A  | Corrective Action Section B |  |                      | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|         |      |   | Initial<br>Chief Eng        | Action Description<br>Chief Eng  | Sign &<br>Date       |                           |                       |                          |
| 12/9/18 | 160  | Tube overbent. Height<br>is 4.70 (des = 4.2)<br>RC over Bent in Bender<br>Process | DAS<br>12<br>12/9/18        | Acceptable<br>If possible, pair this tube<br>with B 868/7 which is also overbent | DAS<br>12<br>12/9/18 | BE<br>18/09/19            | DAS<br>12<br>12/9/18  | DAS<br>16<br>01/01/19    |
|         |      |   |                             |  |                      |                           |                       |                          |
|         |      |   |                             |  |                      |                           |                       |                          |

NOTE: Date & initial all entries

**Work Order ID 86816****\*86816\***

Page 5

July-06-12 2:58:37 PM

Item ID: D3391-025 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: Stop **\*NS2\***  
Item Name: Aft Tube Assembly  
Start Date: 7/06/12 Start Qty: 1.00 **\*1\*** Cust Item ID:  
Required Date: 8/17/12 Req'd Qty: 1.00 **\*1\*** Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID                      | Operation<br>Description                                  | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|---|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 190<br><b>*190*</b><br>QC<br>Quality Control        | QC5- Inspect part completeness to step on W/O<br><br>Memo | 0.00<br>0.00         |         |        |              |               |               |                  |                |
| 200<br><b>*200*</b><br>HandFinish<br>Hand Finishing | Chemical Conversion Coat per QSI005 4.1<br><br>Memo       | 0.00<br>0.00         |         |        |              |               |               |                  |                |
| 210<br><b>*210*</b><br>QC<br>Quality Control        | QC7-Inspect Chemical Conversion Coat<br><br>Memo          | 0.00<br>0.00         |         |        |              |               |               |                  |                |

12/09/19

OK 12/09/19

CE 12/11/19

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Work Order ID 86816

**\*86816\***

Page 6

July-06-12 2:58:37 PM

Item ID: D3391-025 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Aft Tube Assembly  
 Start Date: 7/06/12 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 8/17/12 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description   | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp  |
|--------------------------------|--|----------------------|---------|--------|--------------|---------------|---------------|------------------|-----------------|
| 220                            | Skidtubes  | 0.00                 |         |        |              |               |               |                  |                 |
| <b>*220*</b>                   |  |                      |         |        |              |               |               |                  |                 |
| Skidtubes                      | Memo   | 0.00                 |         |        |              |               |               |                  |                 |
| Skidtubes                      | Instal spacers as per dwg D3391<br>A/R Magnabond 6398 Batch: <u>M120666</u><br>exp. date: <u>13-1-30</u><br>cure time 12hrs as per QSI0015 |                      |         |        |              |               |               |                  | DC 12 / 08 / 19 |
| 230                            | QC5- Inspect part completeness to step on W/O  | 0.00                 |         |        |              |               |               |                  |                 |
| <b>*230*</b>                   |  |                      |         |        |              |               |               |                  |                 |
| QC                             | Memo   | 0.00                 |         |        |              |               |               |                  | DAS 11/26/12    |
| Quality Control                |  |                      |         |        |              |               |               |                  |                 |
| 235                            | Pressure Wash per QSI005 4.3   | 0.00                 |         |        |              |               |               |                  |                 |
| <b>*235*</b>                   |  |                      |         |        |              |               |               |                  |                 |
| HandFinish                     | Memo   | 0.00                 |         |        |              |               |               |                  | 1 129-26        |
| Hand Finishing                 | AND REALODINE AS PER PAR09-043   |                      |         |        |              |               |               |                  |                 |

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Work Order ID 86816

**\*86816\***

Page 7

July-06-12 2:58:37 PM

Item ID: D3391-025 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: Stop **\*NS2\***  
Item Name: Aft Tube Assembly  
Start Date: 7/06/12 Start Qty: 1.00 **\*1\*** Cust Item ID:  
Required Date: 8/17/12 Req'd Qty: 1.00 **\*1\*** Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                     | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 240                            | White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum | 0.00                 |         |        |              |               |               |                  |                |
| <b>*240*</b>                   |  |                      |         |        |              |               |               |                  |                |
| Powdercoat                     |  |                      |         |        |              |               |               |                  |                |
| Powder Coating                 |  |                      |         |        |              |               |               |                  |                |
|                                | Memo   | 0.00                 |         |        |              |               |               |                  |                |
|                                | START TIME: 2-30                             |                      |         |        |              |               |               |                  |                |
|                                | OVEN TEMPERATURE: 320°F                      |                      |         |        |              |               |               |                  |                |
|                                | FINISH TIME: 3-00                            |                      |         |        |              |               |               |                  |                |
| 250                            | QC3- Inspect Part Finish                     | 0.00                 |         |        |              |               |               |                  |                |
| <b>*250*</b>                   |  |                      |         |        |              |               |               |                  |                |
| QC                             |  |                      |         |        |              |               |               |                  |                |
| Quality Control                |  |                      |         |        |              |               |               |                  |                |
|                                | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| 260                            | HandFinishing                                | 0.00                 |         |        |              |               |               |                  |                |
| <b>*260*</b>                   |  |                      |         |        |              |               |               |                  |                |
| HandFinish                     |  |                      |         |        |              |               |               |                  |                |
| Hand Finishing                 |  |                      |         |        |              |               |               |                  |                |
|                                | Memo   | 0.00                 |         |        |              |               |               |                  |                |
|                                | 1-Install inserts as per Dwg D3391           |                      |         |        |              |               |               |                  |                |
|                                | 2-Install Aft Cap as per Dwg D3391           |                      |         |        |              |               |               |                  |                |
|                                | A/R Sikaflex-241/-291 M123025                |                      |         |        |              |               |               |                  |                |
|                                | Sikaflex expiry date: 13102                  |                      |         |        |              |               |               |                  |                |
|                                | 3- INSTALL WEARPLATES AS PER DWG             |                      |         |        |              |               |               |                  |                |

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



# Work Order ID 86816

July-06-12 2:58:38 PM

**\*86816\***

Page 8

Item ID: D3391-025 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Aft Tube Assembly  
 Start Date: 7/06/12 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 8/17/12 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID                | Operation<br>Description                                     | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|---|--|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 270<br><b>*270*</b><br>QC<br>Quality Control  | QC5- Inspect part completeness to step on W/O<br><br>Memo    | 0.00<br>0.00         |         |        |              |               |               |                  |                |
| 280<br><b>*280*</b><br>Packaging<br>Packaging | Identify as per dwg & Stock Location: <u>w/o</u><br><br>Memo | 0.00<br>0.00         |         |        |              |               |               |                  |                |
| 290<br><b>*290*</b><br>QC<br>Quality Control  | QC21- Final Inspection - Work Order Release<br><br>Memo      | 0.00<br>0.00         |         |        |              |               |               |                  |                |

DAS  
16  
17/10/04

0412-742-043/1387066

12 f 11 11/10/06

12/10/548

WME  
12-10-04

**Dart Aerospace Ltd**

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

July-06-12 2:58:37 PM

Page 1

Work Order ID: 86816  
Parent Item: D3391-025  
Parent Item Name: Aft Tube Assembly

Start Date: 7/06/12

Required Date: 8/17/12

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev B 06-02-07 ECN773 dwg rev. D EC  
IPP Rev:C 06-03-28 Update Manuf. Instructions JLM  
IPP rev D 07.03.20 revF dwg EC  
IPP rev E 07.11.07 rev G dwg ecn 1053p EC verified by: DD  
IPP Rev:F 07-11-13 ECN 1056 DD verified by: EC  
IPP Rev:G 08-09-10 revH as per dwg DD verified by:EC IPP Rev:H 11.11.14 AS PER REV.I  
DD verified by:JLM

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand  | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|-----------------|-------------|--------------|---------------|----------------|--------|
| D4095-047<br>Wearpad Assembly   |                        | Manufactured  | No          |                     |                  | 260             | Each               | 8.0000          | 1           | 1            |               |                |        |
|                                 |                        |               |             | <u>Location</u>     |                  | <u>Loc Qty</u>  |                    | <u>Loc Code</u> |             |              |               |                |        |
|                                 |                        |               |             | FP001               |                  | 8               |                    |                 |             |              |               |                |        |
|                                 |                        |               |             | 85498               |                  | 8               |                    |                 |             |              |               |                |        |
| D4095-049<br>Wearpad Assembly   |                        | Manufactured  | No          |                     |                  | 260             | Each               | 16.0000         | 1           | 1            |               |                |        |
|                                 |                        |               |             | <u>Location</u>     |                  | <u>Loc Qty</u>  |                    | <u>Loc Code</u> |             |              |               |                |        |
|                                 |                        |               |             | FP002               |                  | 16              |                    |                 |             |              |               |                |        |
|                                 |                        |               |             | 81612               |                  | 4               |                    |                 |             |              |               |                |        |
|                                 |                        |               |             | 85613               |                  | 12              |                    |                 |             |              |               |                |        |
| D6014-090<br>ALUMINUM EXTRUSION |                        | Manufactured  | No          |                     |                  | 100             | Each               | 66.0000         | 1           | 1            |               |                |        |
|                                 |                        |               |             | <u>Location</u>     |                  | <u>Loc Qty</u>  |                    | <u>Loc Code</u> |             |              |               |                |        |
|                                 |                        |               |             | LG                  |                  | 66              |                    |                 |             |              |               |                |        |
|                                 |                        |               |             | 77332               |                  | 26              |                    |                 |             |              |               |                |        |
|                                 |                        |               |             | 19742               |                  | 40              |                    |                 |             |              |               |                |        |

1 12/08/21

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

July-06-12 2:58:37 PM

Page 2

Work Order ID: 86816

Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 7/06/12

Required Date: 8/17/12

Start Qty: 1.00

Required Qty: 1.00

D3670-4-200

Manufactured No

230 Each 98.0000

SPACER

4 De 12/09/19

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| LG       | 46      |          |
| 80360    | 40      |          |
| 84504    | 6       |          |
| LG001    | 52      |          |
| 78606    | 4       |          |
| 81972    | 7       |          |
| 85460    | 41      |          |

D2646

Manufactured No

270 Each 81.0000

Aft Cap

1 4 1 u 1 n/10/01

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| FP002    | 81      |          |
| 62678    | 5       | 1385848  |
| 68280    | 5       |          |
| 70945    | 1       |          |
| 71070    | 2       |          |
| 73294    | 1       |          |
| 73825    | 2       |          |
| 79562    | 4       |          |
| 81974    | 28      |          |
| 85443    | 33      |          |

✓1

D3672-1

Manufactured No

270 Each 1,362.0000

Phenolic Washer

2 u 2 n/10/01

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| ST060    | 1362    |          |
| 72229    | 4       |          |
| 76277    | 13      |          |
| 80369    | 335     |          |
| 83608    | 500     |          |
| 85222    | 510     |          |

✓2

July-06-12 2:58:37 PM

Shop Packet Print

Page 2

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

July-06-12 2:58:37 PM

Page 3

Work Order ID: 86816

Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 7/06/12

Required Date: 8/17/12

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-130

Purchased No

260 Each 1,209.0000

14 14 14 11/10/02

Insert \*ALS7-1032-130

## Location

## Loc Qty

## Loc Code

ST280

205

M12247J

x14

119084

116

120671

89

ST281

44

120807

36

120837

8

ST282

960

121269

960

ALS4-1032-225

Purchased No

270 Each 2,928.0000

8 8 8 11/10/02

Insert

## Location

## Loc Qty

## Loc Code

FP-B

2485

122290

2485

x8

ST281

420

108696

146

110768

62

118386

55

118966

68

121269

89

ST282

23

120410

10

120451

13

July-06-12 2:58:37 PM

Shop Packet Print

Page 3

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



# Picklist Print

July-06-12 2:58:37 PM

Page 4

Work Order ID: 86816

Parent Item: D3391-025

Parent Item Name: Aft Tube Assembly

Start Date: 7/06/12

Required Date: 8/17/12

Start Qty: 1.00

Required Qty: 1.00

AN3C4A Purchased No

270 Each 4,260.0000

6

6

12/10/04

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| ST350    | 4260    |          |
| 120187   | 31      |          |
| 120521   | 28      |          |
| 120769   | 38      | 11123021 |
| 121205   | 155     |          |
| 121556   | 8       |          |
| 122151   | 4000    |          |

x6

AN3C5A Purchased No

270 Each 1,611.0000

4

4

12/10/04

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| FP001    | 7       |          |
| 115835   | 7       |          |
| ST350    | 1604    |          |
| 116419   | 28      | 11122800 |
| 117343   | 13      |          |
| 117764   | 7       |          |
| 117872   | 2       |          |
| 119749   | 23      |          |
| 120423   | 28      |          |
| 121255   | 469     |          |
| 121444   | 34      |          |
| 121708   | 500     |          |
| 122141   | 500     |          |

x4

AN960C10L washer ~~×~~ NAS1149C0332R Purchased No

270 Each 21.0000

10

10

12/10/04

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| ST       | 21      | 11123278 |
| 107534   | 21      |          |

x10

July-06-12 2:58:37 PM

Shop Packet Print

Page 4

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

|  |               |                             |
|--|---------------|-----------------------------|
| <b>DART AEROSPACE LTD</b>                |               | <b>Work Order:</b> 768/6    |
| <b>Description:</b> Float Skidtube (412) |               | <b>Part Number:</b> D3391-3 |
| <b>Inspection Dwg:</b> D3391             | <b>Rev:</b> I | <b>Page 1 of 1</b>          |

### FIRST ARTICLE INSPECTION CHECKLIST

| Drawing Dimension    | Tolerance | Actual Dimension | Accept | Reject | Method of Inspection | Comments |
|----------------------|-----------|------------------|--------|--------|----------------------|----------|
| <b>Lathe Section</b> |           |                  |        |        |                      |          |
| 14.000               | +/-0.010  | 14.000           | ✓      |        | VERN                 | CNC-08   |
| 3.500                | +/-0.010  | 3.497            | ✓      |        |                      |          |
| 88.93                | +/-0.030  | 88.940           | ✓      |        |                      |          |
| Ø3.200               | +/-0.010  | 3.207            | ✓      |        |                      |          |
| 88.93                | +/-0.030  | 88.940           | ✓      |        | TAPE                 | LG-22    |
| Ø3.750               | +/-0.010  | 3.750            | ✓      |        | VERN                 | CNC-08   |
| 30° x 0.060 chamfer  | +/-0.010  | 30° x .060       | ✓      |        | ↓                    | ↓        |

|                              |                       |
|------------------------------|-----------------------|
| <b>Measured by:</b> mmc / KC | <b>Date:</b> 12/08/22 |
| <b>Audited by:</b>           | <b>Date:</b>          |

|                     |               |        |   |  |      |        |
|---------------------|---------------|--------|---|--|------|--------|
| <b>HAAS Section</b> |               |        |   |  |      |        |
| 1.526               | +0.000/-0.030 | 1.514  | ✓ |  | Vern | GA-01  |
| 7.500               | +/-0.010      | 7.494  | ✓ |  | Vern | CNC-02 |
| 27.750              | +/-0.010      | 27.750 | ✓ |  | Tape | GA-12  |
| 31.750              | +/-0.010      | 31.750 | ✓ |  | "    | "      |
| 35.250              | +/-0.010      | 35.250 | ✓ |  | "    | "      |
| 3.300               | +/-0.010      | 3.301  | ✓ |  | Vern | CNC-02 |
| 0.200               | +/-0.010      | 0.199  | ✓ |  | Vern | GA-01  |
| 3.520               | +/-0.010      | 3.523  | ✓ |  | Mic  | GA-10  |
| 0.687               | +0.010/-0.000 | 0.688  | ✓ |  | Vern | GA-01  |
| R0.062              | +/-0.010      | R0.063 | ✓ |  | R-6  | Ref.   |
| Ø0.484              | +0.005/-0.001 | Ø0.486 | ✓ |  | Vern | GA-01  |

|                          |                       |
|--------------------------|-----------------------|
| <b>Measured by:</b> B.A. | <b>Date:</b> 12/09/13 |
| <b>Audited by:</b> SP    | <b>Date:</b> 2-9-14   |

| Rev | Date     | Change                                     | Revised by | Approved |
|-----|----------|--|------------|----------|
| A   | 06.04.24 | New Issue P/O D3391-015/-025               | KJ/JLM     |          |
| B   | 06.06.19 | Dwg revision update                        | KJ/JLM     |          |
| C   | 07.04.20 | Ø0.208 dimension removed                   | KJ/JLM     |          |
| D   | 07.09.06 | 0.400 dimension removed                    | KJ/JLM     |          |
| E   | 07.11.23 | Dwg Rev. updated                           | KJ/EC/DD   |          |
| F   | 09.04.27 | Dimensions updated per Rev H and NCR09-028 | KJ/JLM     |          |
| G   | 09.11.16 | Dimension 0.200 removed                    | KJ         |          |
| H   | 11.06.21 | Dimension 44.995 removed                   | KJ         |          |
| I   | 12.05.15 | Dwg Rev updated                            | KJ         |          |
| J   | 12.05.23 | Dimension updated                          | KJ         |          |

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

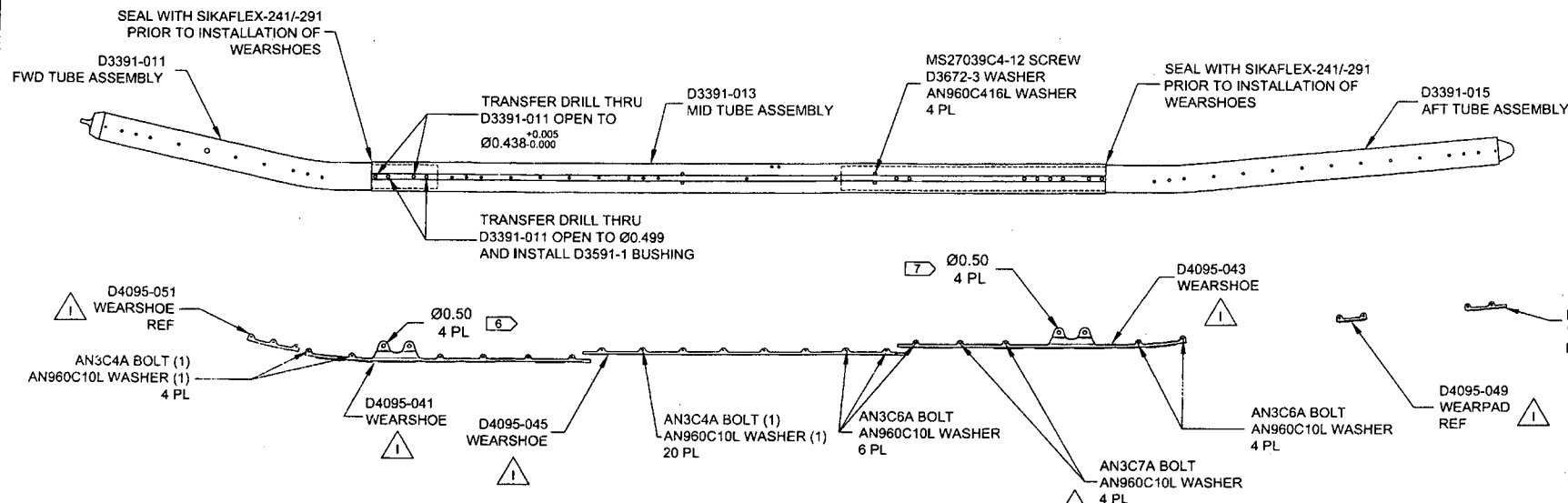
QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

|  |   |   |                                      |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
|--|---|---|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Work Order Update <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> | Skid-tube <input type="checkbox"/>   | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> |  |
| Skid-tube <input type="checkbox"/>                           | Crosstube <input type="checkbox"/>  | Water Jet <input type="checkbox"/>  | Engineering <input type="checkbox"/> |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Machining <input type="checkbox"/>                           | Small Fab <input type="checkbox"/>  | Prod. Eng. Coord. <input type="checkbox"/>  | Quality <input type="checkbox"/>     |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Thermoforming <input type="checkbox"/>                       | Finishing <input type="checkbox"/>  | Rec/Store/Packaging <input type="checkbox"/>  | Other <input type="checkbox"/>       |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |
| Large Fab <input type="checkbox"/>                           | Composite <input type="checkbox"/>  | Supplier <input type="checkbox"/>   |                                      |                                    |                                    |                                      |                                    |                                    |  |                                  |  |                                    |  |                                |                                    |                                    |                                   |  |

| Root Cause    | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Doc/Data      |      |      |     |   |                   |                    |             |              |              |
| Equip/Tooling |      |      |     |   |                   |                    |             |              |              |
| Operator      |      |      |     |   |                   |                    |             |              |              |
| Material      |      |      |     |   |                   |                    |             |              |              |
| Setup         |      |      |     |   |                   |                    |             |              |              |
| Other         |      |      |     |   |                   |                    |             |              |              |
| Process       |      |      |     |   |                   |                    |             |              |              |
| Supplier      |      |      |     |   |                   |                    |             |              |              |
| Training      |      |      |     |   |                   |                    |             |              |              |
| Unapproved    |      |      |     |   |                   |                    |             |              |              |

**FAULT CATEGORY**

| Landing Gear  | General                                 | Other  |
|---|---|--|
| <input type="checkbox"/> Bending                      | <input type="checkbox"/> Bend           | <input type="checkbox"/> Grain                           |
| <input type="checkbox"/> Centre Not Concentric to O/S | <input type="checkbox"/> BOM/Route      | <input type="checkbox"/> Hardware                        |
| <input type="checkbox"/> Cracks                       | <input type="checkbox"/> Broken/Damaged | <input type="checkbox"/> Inspection Incomplete           |
| <input type="checkbox"/> Crushed/Crimped              | <input type="checkbox"/> Burrs          | <input type="checkbox"/> Instructions Incomplete/Unclear |
| <input type="checkbox"/> Cuffs                        | <input type="checkbox"/> Contamination  | <input type="checkbox"/> Maintenance                     |
| <input type="checkbox"/> Heat Treat                   | <input type="checkbox"/> Countersink    | <input type="checkbox"/> Mislabelled                     |
| <input type="checkbox"/> Inspection Strip in Tube     | <input type="checkbox"/> Cut Too Short  | <input type="checkbox"/> Misread                         |
| <input type="checkbox"/> Ripples in Bend              | <input type="checkbox"/> Drill Holes    | <input type="checkbox"/> Offset                          |
| <input type="checkbox"/> Torque Waves in Extrusion    | <input type="checkbox"/> Drawing        | <input type="checkbox"/> Out of Calibration              |
| <input type="checkbox"/> Turning Sequence             | <input type="checkbox"/> Finish         | <input type="checkbox"/> Out of Sequence                 |
| <input type="checkbox"/> Wave/Twist in Tube           | <input type="checkbox"/> Folio          | <input type="checkbox"/> Outside Dimensions              |
|   |   | <input type="checkbox"/> Ovalized                        |
|   |   | <input type="checkbox"/> Over/Under tolerance            |
|   |   | <input type="checkbox"/> Part Incorrect                  |
|   |   | <input type="checkbox"/> Part Lost/Missing               |
|   |   | <input type="checkbox"/> Part Moved                      |
|   |   | <input type="checkbox"/> Positioned Wrong                |
|   |   | <input type="checkbox"/> Power Loss/Surge                |
|   |   | <input type="checkbox"/> Pressure/Forced                 |
|   |   | <input type="checkbox"/> Temperature/Cure                |
|   |   | <input type="checkbox"/> Weld                            |
|   |   | <input type="checkbox"/> Wrong Stock Pulled              |
|   |   | <input type="checkbox"/> Other                           |



**D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

| QTY | PART NUMBER  | DESCRIPTION             |
|-----|--------------|-------------------------|
| X   | D3391-041    | FLOAT SKIDTUBE ASSEMBLY |
| 1   | D3391-011    | FWD TUBE ASSEMBLY       |
| 1   | D3391-013    | MID TUBE ASSEMBLY       |
| 1   | D3391-015    | AFT TUBE ASSEMBLY       |
| 2   | D3591-1      | BUSHING                 |
| 4   | D3672-3      | WASHER                  |
| 1   | D4095-041    | WEARSHOE                |
| 1   | D4095-043    | WEARSHOE                |
| 1   | D4095-045    | WEARSHOE                |
| 1   | D4095-047    | WEARSHOE                |
| 1   | D4095-049    | WEARSHOE                |
| 1   | D4095-051    | WEARSHOE                |
| 24  | AN3C4A       | BOLT                    |
| 10  | AN3C6A       | BOLT                    |
| 4   | AN3C7A       | BOLT                    |
| 38  | AN960C10L    | WASHER                  |
| 4   | MS27039C4-12 | SCREW                   |
| 4   | AN960C416L   | WASHER                  |

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SUBJECT TO AMENDMENT

WITHOUT NOTICE  
WORK ORDER  
NO. 86816

**GENERAL NOTES**

- FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON"  
AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES  
FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT  
WHERE INDICATED.
- FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH  
APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND  
TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
- FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH  
THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND  
TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043

|            |   |     |          |
|------------|---|-----|----------|
| I          | REMOVE GASKETS AND REPLACE ALL WEARSHOES;<br>PARTS LIST UPDATE, ZN A8-1, ZN A8-2, ZN A6-4,<br>ZN B6-8; LPS-3 COATING REMOVED FROM NOTE 2,<br>ZN A3-1, ZN A3-2, REMOVED INSERT AELS-1032-130,<br>ZN B6-4, B2-4, C7-8, C3-8; REMOVED HOLES, ZN D6-4<br>ZN D2-4, ZN D7-8, ZN D3-8                        | XDF | 11.10.13 |
| H          | DRAWING UPDATED TO CURRENT STANDARDS.<br>SHT 1 PL. ADDED D3591-1 BUSHING, ZN C6 Ø0.438 DIM<br>WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING.<br>SHT 2 PL. ADDED D3591-1 BUSHING, ZN C6 Ø0.438 DIM<br>WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING.<br>(FOR FURTHER INFO SEE DSI 9364 & NCR 08-074) | AJS | 08.08.20 |
| G          | REPLACE NAS INSERTS W/ AELS INSERTS<br>SWITCH TO D3670-XXXX SPACERS FOR INSTALLING<br>FLOAT BAGS, DWG REORGANIZED FOR CLARITY   | DC  | 07.07.31 |
| F          | ADD SS WEARSHOE, GASKET<br>REMOVE FWD SADDLE HOLE -011/-021   | PH  | 07.01.18 |
| E          | CHANGE TOLERANCE, EASE MANUFACTURE  | PH  | 06.04.25 |
| D          | UPDATE TOLERANCE, CHANGE HOLE SIZE  | PH  | 06.01.23 |
| C          | LENGTHEN AFT EXTENSION  | PH  | 05.09.27 |
| B          | DRAWING UPDATES   | PH  | 05.06.10 |
| A          | NEW ISSUE   | PH  | 05.02.07 |
| REV.       | DESCRIPTION   | BY  | DATE     |
| DESIGN     | PH  |     |          |
| DRAWN      | XDF   |     |          |
| CHECKED    |   |     |          |
| MFG. APPR. |   |     |          |
| APPROVED   |   |     |          |
| DE APPR.   |   |     |          |
| DATE       | 11.10.13  |     |          |

**DART AEROSPACE USA, INC**  
KENT, WA

DRAWING NO. D3391  
REV. 1  
SHEET 1 OF 8

TITLE  
412 FLOAT SKIDTUBE  
SCALE  
NTS

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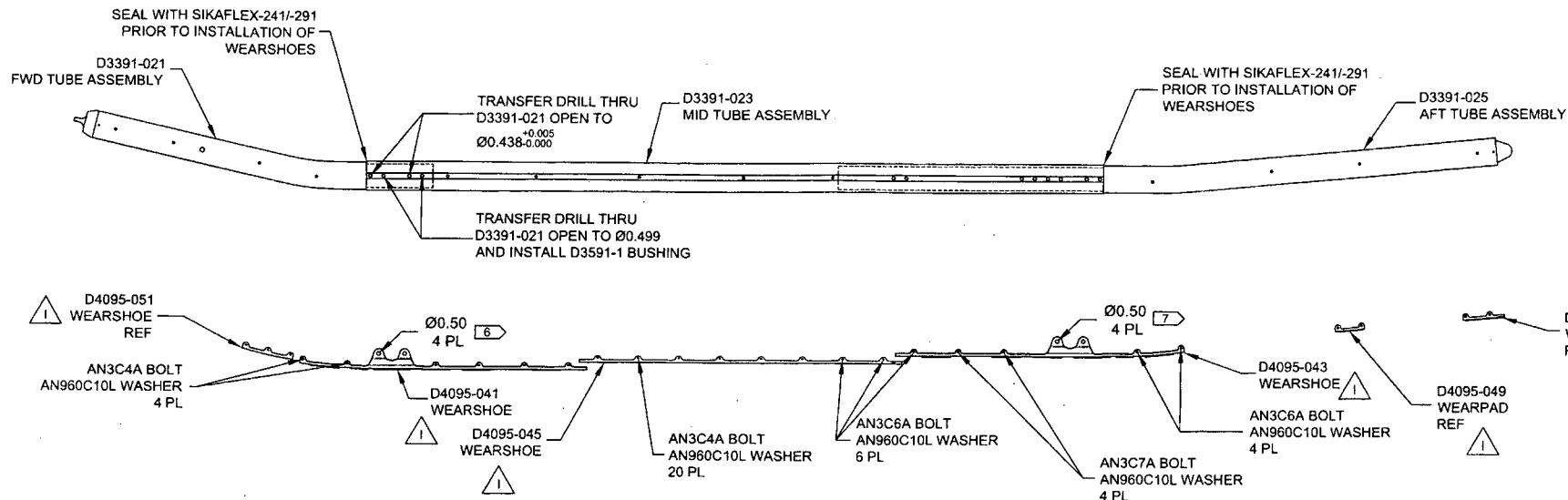
| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



**D3391-043 ASSEMBLY**

**D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

| QTY -043 | PART NUMBER | DESCRIPTION             |
|----------|-------------|-------------------------|
| X        | D3391-043   | FLOAT SKIDTUBE ASSEMBLY |
| 1        | D3391-021   | FWD TUBE ASSEMBLY       |
| 1        | D3391-023   | MID TUBE ASSEMBLY       |
| 1        | D3391-025   | AFT TUBE ASSEMBLY       |
| 2        | D3591-1     | BUSHING                 |
| 1        | D4095-041   | WEARSHOE                |
| 1        | D4095-043   | WEARSHOE                |
| 1        | D4095-045   | WEARSHOE                |
| 1        | D4095-047   | WEARPAD                 |
| 1        | D4095-049   | WEARPAD                 |
| 1        | D4095-051   | WEARSHOE                |
| 24       | AN3C4A      | BOLT                    |
| 10       | AN3C6A      | BOLT                    |
| 4        | AN3C7A      | BOLT                    |
| 38       | AN960C10L   | WASHER                  |

**GENERAL NOTES**

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. CBORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- 6) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
- 7) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043

86816

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2011-11-04

|            |          |   |        |
|------------|----------|---|--------|
| DESIGN     | PH       | <b>DART AEROSPACE USA, INC</b>  |        |
| DRAWN      | XDF      | KENT, WA  |        |
| CHECKED    |          | DRAWING NO. D3391   | REV. 1 |
| MFG. APPR. |          | SHEET 2 OF 8  |        |
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# Dart Aerospace Ltd

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
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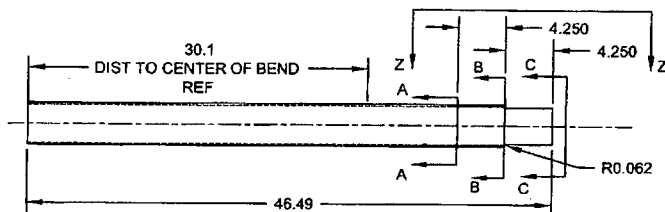
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

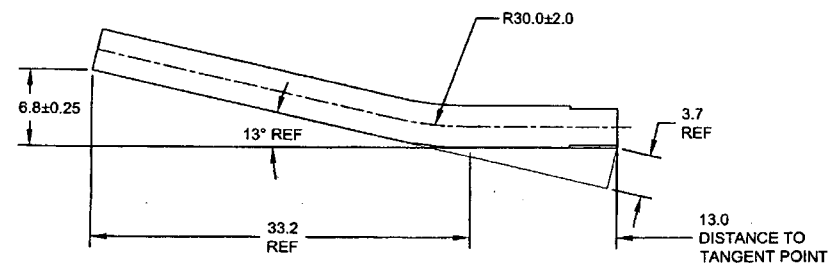
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|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

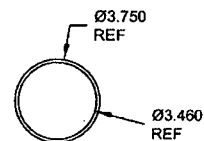




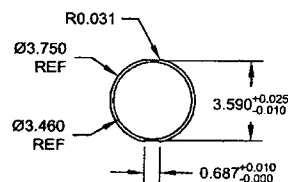
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(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



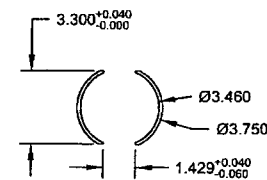
**D3391-011/-021 BENDING DETAIL**  
(MAKE FROM D3391-1)



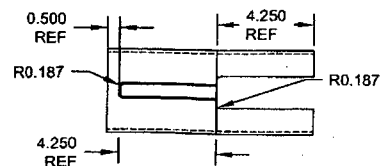
**SECTION A-A**  
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**SECTION B-B**  
SCALE 2X



**SECTION C-C**  
SCALE 2X



**VIEW Z-Z**  
SCALE 2X

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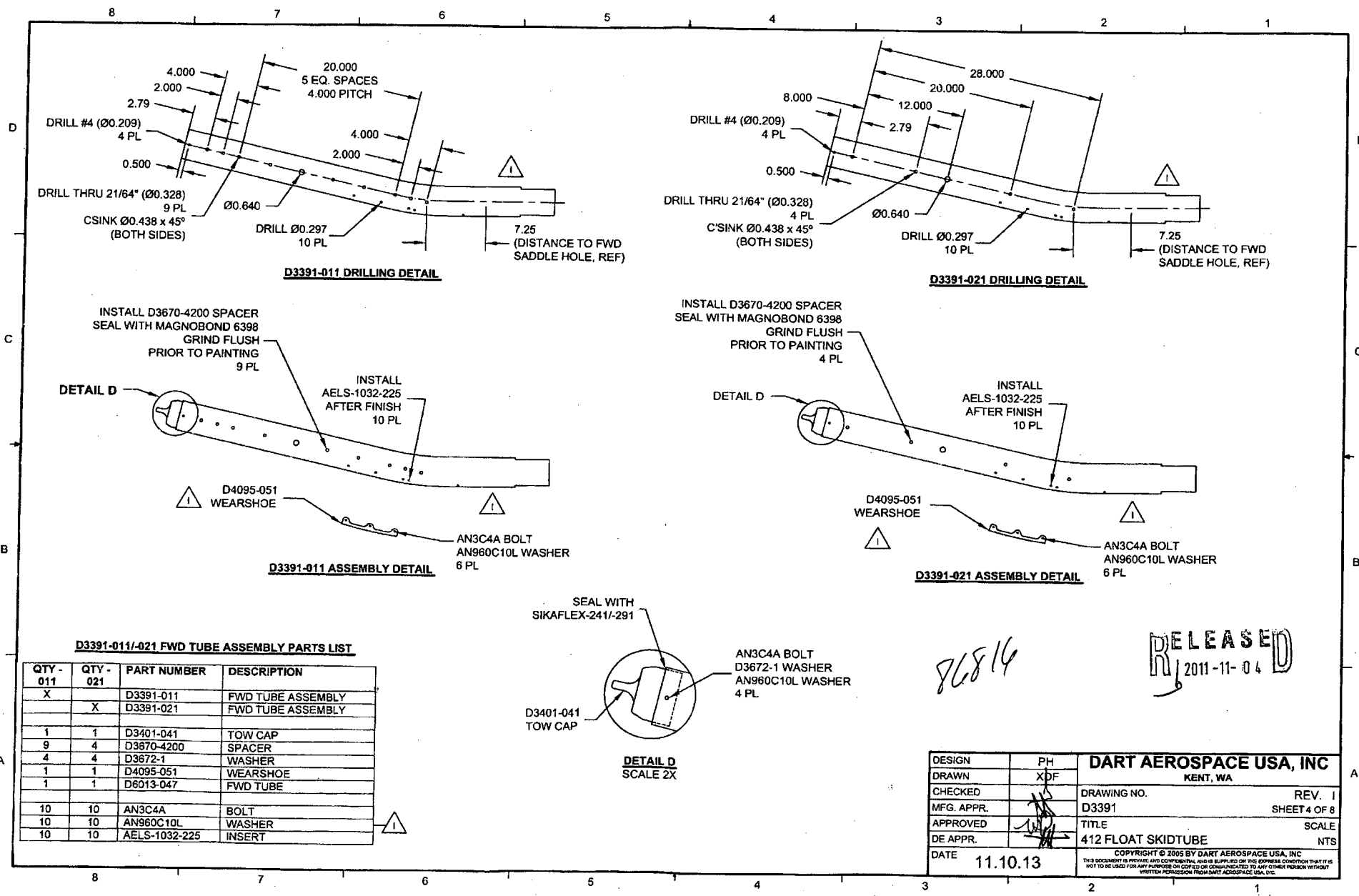
**Dart Aerospace Ltd**

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



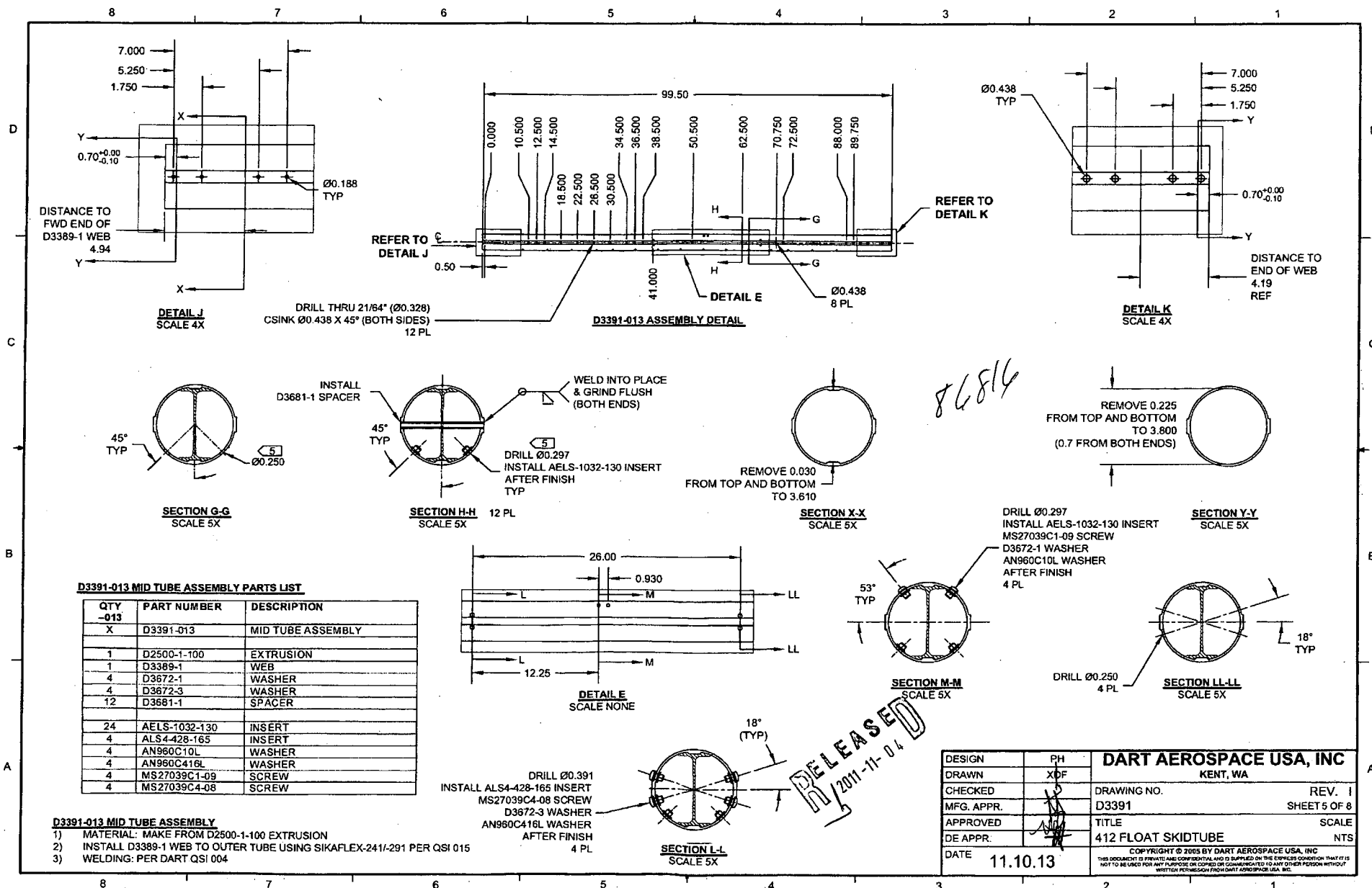
| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



# Dart Aerospace Ltd

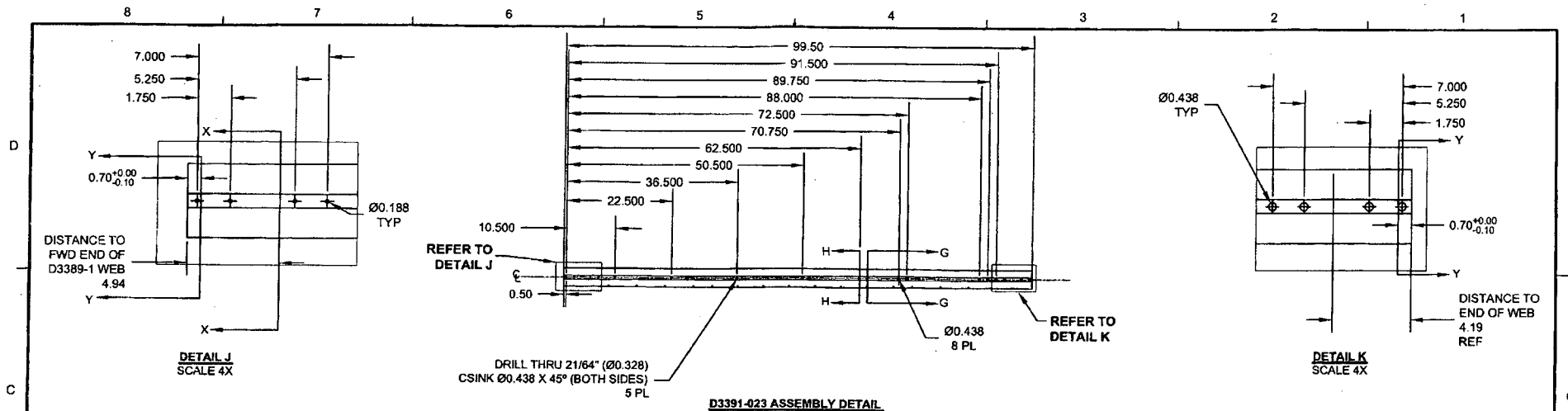
| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

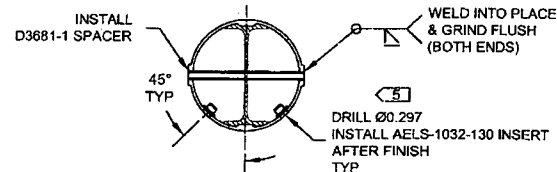
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

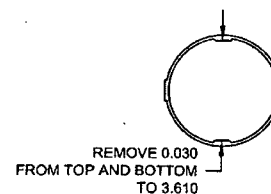
**NOTE:** Date & initial all entries



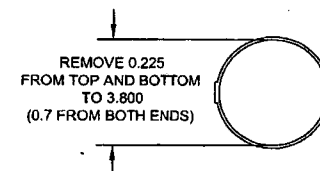
SECTION G-G  
SCALE 5X



SECTION H-H  
SCALE 5X



SECTION X-X  
SCALE 5X



SECTION Y-Y  
SCALE 5X

**D3391-023 MID TUBE ASSEMBLY PARTS LIST**

| QTY - 023 | PART NUMBER   | DESCRIPTION       |
|-----------|---------------|-------------------|
| X         | D3391-023     | MID TUBE ASSEMBLY |
| 1         | D2500-1-100   | EXTRUSION         |
| 1         | D3389-1       | WEB               |
| 5         | D3681-1       | SPACER            |
| 20        | AELS-1032-130 | INSERT            |

**D3391-023 MID TUBE ASSEMBLY**

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015
- 3) WELDING: PER DART QSI 004

|            |          |  |              |
|------------|----------|--|--------------|
| DESIGN     | PH       | <b>DART AEROSPACE USA, INC</b>   |              |
| DRAWN      | XDF      | KENT, WA   |              |
| CHECKED    |          | DRAWING NO.  | REV. 1       |
| MFG. APPR. |          | D3391  | SHEET 6 OF 8 |
| APPROVED   |          | TITLE  | SCALE        |
| DE APPR.   |          | 412 FLOAT SKIDTUBE   | NTS          |
| DATE       | 11.10.13 | COPYRIGHT © 2005 BY DART AEROSPACE USA, INC<br>THIS DOCUMENT IS UNCLASSIFIED AND IS SUPPLIED ON THE CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC. |              |

**Dart Aerospace Ltd**

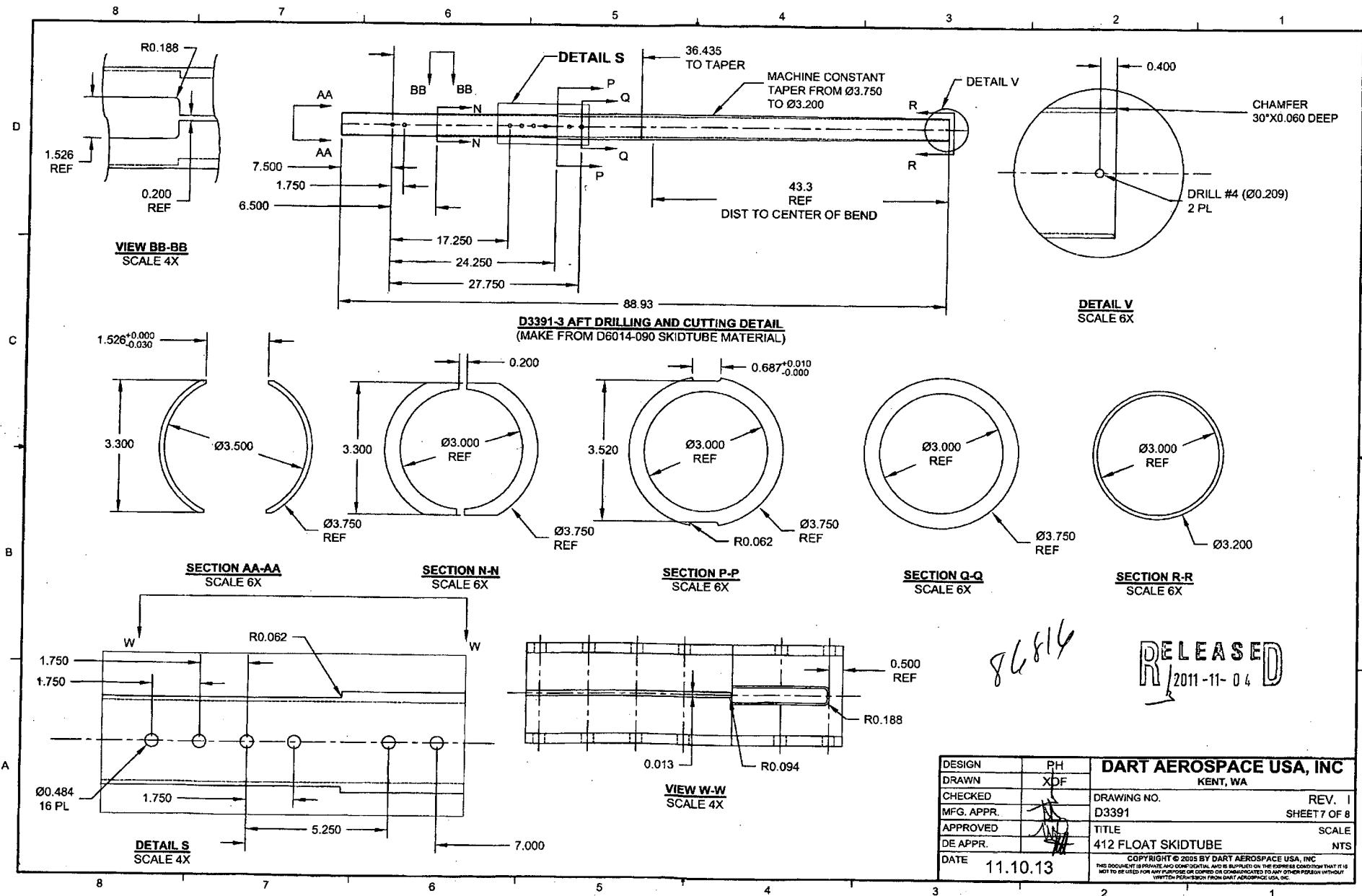
| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries





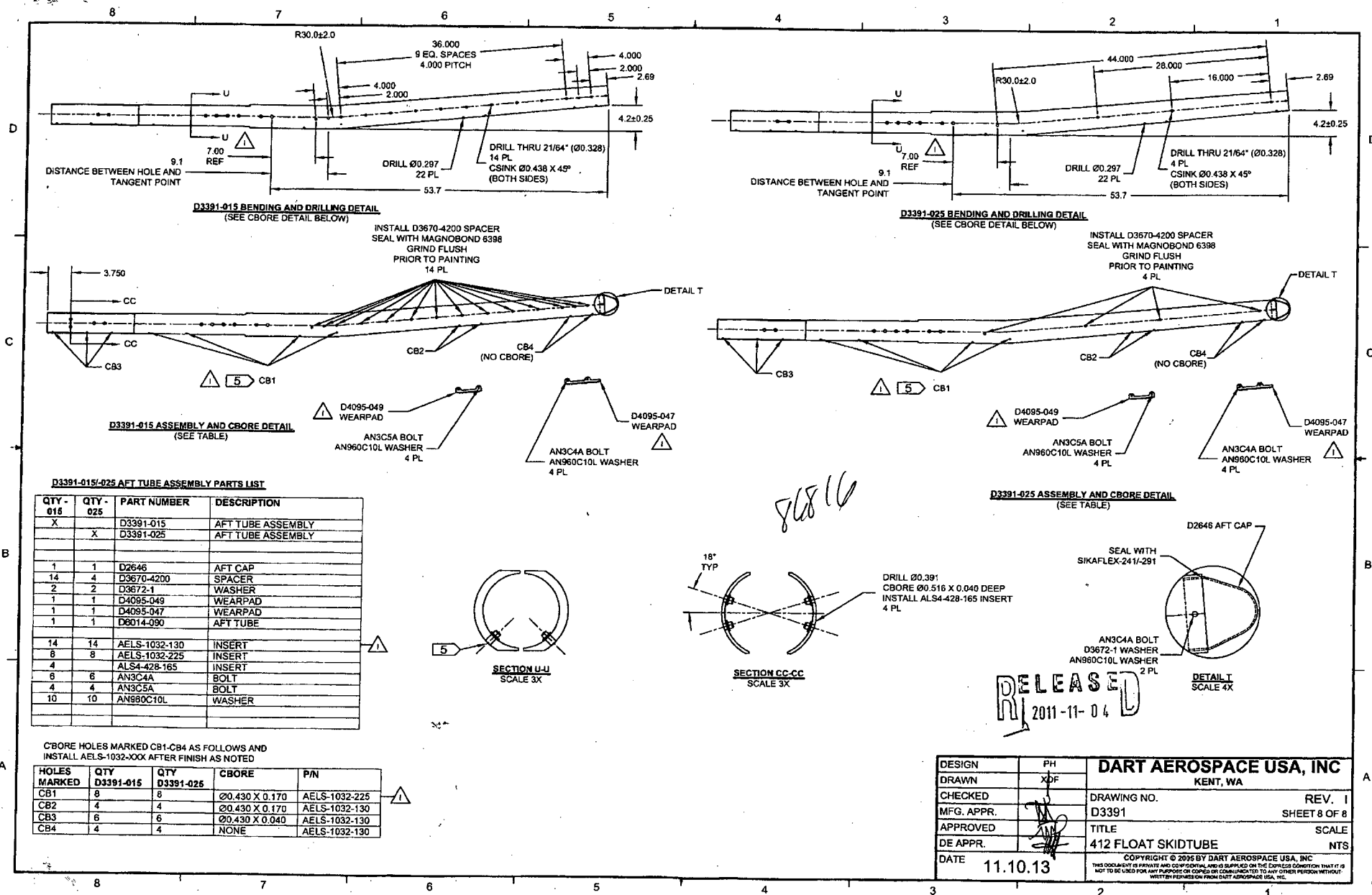
| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                                |                                 |                |                           |                       |                          |
|------|------|----------------------------------|--------------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action<br>Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng           | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
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|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

NOTE: Date & initial all entries